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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE  
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In Cooperation with State, Federal and Other Agencies

COTTON INSECT CONDITIONS FOR WEEK ENDING JUNE 18, 1948  
(Fifth Cotton Insect Survey Report for 1948)

Hot, dry weather has continued to hold down the boll weevil infestations in many areas and reports indicate that insecticides are being used more extensively than usual in parts of South Carolina and Texas. In most areas the boll weevil infestations are spotted. In all of the Gulf Coast and Atlantic Coast States each cotton field should be carefully examined at least once each week to check on the insect infestations.

on June 20

The first cotton leafworm of the year was found in Refugio County, Texas.

No actual shortages of insecticides for cotton insect control have been reported; however, some reports have indicated that supplies of certain insecticides were rather low. As usual insecticides are probably being used more extensively in Arizona and California than in the other States, but large quantities are being used in Texas.

BOLL WEEVIL

TEXAS: Hot, dry weather prevailed generally throughout the State and cotton is maturing in some southern counties, especially on the lighter soils. Boll weevil infestations continued high in many fields of south-central, central and north-central Texas. In 541 fields examined in 54 counties an average of 17% of the squares was punctured by weevils as compared to 7% a year ago at this time. In 73 fields no weevils were found; in 208 fields less than 10% of the squares were punctured; in 139 fields from 10 to 25% were punctured; in 75 fields from 25 to 50% were punctured; and in 46 fields more than 50% of the squares were punctured. Control measures are needed in many fields in this section of the State.

In McLennan and Falls Counties in central Texas. 14,600 seedling cotton plants were examined in 38 fields and boll weevils were found at an average rate of 128 per acre as compared to 32 a year ago at this time. Infestation counts made in 38 fields of early planted cotton averaged 42% punctured squares. The square infestation counts as compared to past years on this date are as follows:

1948	4,500 sqs.,	38 fields,	ave. 42%	pct. sqs.,	range 2 to 82%
1947	3,000 "	5 "	" 20%	" "	" 1 to 54%
1946	3,400 "	17 "	" 76%	" "	" 55 to 88%
1945	2,100 "	7 "	" 19%	" "	" 10 to 44%
1944	3,600 "	14 "	" 40%	" "	" 15 to 74%
1943	21,100 "	17 "	" 10%	" "	" 3 to 25%
1942	20,750 "	24 "	" 32%	" "	" 12 to 78%
1941	11,500 "	3 "	" 26%	" "	" 8 to 60%

These records indicate that there are sufficient weevils in the Waco area to cause serious damage to the cotton crop unless they are controlled by dry, hot weather or by insecticides.



LOUISIANA: Most cotton in the northern half of the State is in the stage where it is too large for counting the weevils on the plants and not large enough to make square infestation records. In 84 fields in 6 parishes scattered throughout Louisiana, an average of 6% of the squares was punctured by boll weevils. In 25 of the fields no punctured squares were found; in 43 fields less than 10% of the squares were punctured; in 9 fields the infestations ranged from 10 to 25% punctured squares; and in 7 fields in Bossier and Madison Parishes the infestations ranged from 26 to 50% punctured squares. No boll weevils were found in the examination of 2800 seedling cotton plants in 14 fields in Bossier, Red River and Natchitoches Parishes.

Hot and dry weather prevailed during the week in most of Louisiana with some showers in scattered local areas.

Boll weevil hibernation studies conducted at the Tallulah, Louisiana, field laboratory indicate that the boll weevil survival in that area is lower than during any of the past 8 years except 1942 and 1940. Only .38% of the weevils had emerged in the cages up to June 18 this year as compared to 1.52% in 1947; 8.44% in 1946; 13.52% in 1945; 2% in 1944 and .94% in 1943.

ARKANSAS: Boll weevils were found in only 7 of the 39 fields where seedling cotton plants were examined in 6 counties in southeastern Arkansas. No weevils were found in the 15 fields examined in Ashley, Drew and Jefferson Counties. Only 1 weevil was found in the 7 fields examined in Lincoln County. Only 10 weevils were found in the examination of 5,100 plants in 17 fields in Chicot and Desha Counties. In Chicot County in the southeastern corner of the State, square examinations were made in 7 fields of early-planted cotton. In one field no punctured squares were found, and only in one of the other six fields did the infestation exceed 10% punctured squares. These field examinations indicate that boll weevils are less abundant in southeastern Arkansas than they were a year ago at this time. During the week ending June 18, boll weevils were found at the rate of only 17 per acre in the 39 fields examined; while a year ago in 3 of the southeastern Arkansas counties during the week ending June 20, 1947 boll weevils were found at the rate of 155 per acre.

MISSISSIPPI: The report on cotton insect conditions issued by the State Plant Board on June 21 was in part as follows:

"Boll weevils invaded more cotton fields during the past week, according to observations made by State Plant Board inspectors and federal entomologists who examined 449 fields in 49 counties. Weevils were found on 160 farms or 36% as compared to 26% infested a week ago. On 58 farms not yet squaring the average weevil population was 100 per acre compared with 89 per acre last week and 268 per acre a year ago, while on 102 farms where cotton was squaring the average infestation was approximately 10% as compared with 9% a week ago.

"Except for Warren, Issaquena and Yazoo Counties, there is practically no boll weevil infestation in the Delta at present but the infestation may build up rapidly in the lower Delta Counties.

"In general, the infestations through the central and southern parts of the State are light, but rainy weather may permit the development of a large first generation with heavy damage resulting.

"Planters are urged to make weekly infestation records of weevils but to delay poisoning as long as possible. Early infestations of weevils

and fleahoppers are not usually important, according to Dr. Clay Lyle, entomologist of the Board, who advises delaying treatment for weevils until at least 25% of the squares are punctured in heavily-fruiting cotton. He also suggests that treatment for fleahoppers should not be applied before the first week in July, as the plant can quickly replace any fruit lost prior to that time."

In the Delta Counties many boll weevils are continuing to come out of hibernation. During the week ending June 18 boll weevils were found in 60 of the 231 Delta fields examined as compared to 20 of the 255 fields examined the previous week. In other words, 21% of the fields examined had boll weevils as compared to 8% the previous week.

ALABAMA: W. A. Ruffin, Extension Entomologist, Auburn, wired on June 21:

"Visited several cotton counties in southwest Alabama last week. Boll weevil infestation ranged from 4 to 50%. Found no evidence of first generation adults. Advised farmers to start dusting in about ten days. Found no damage from lice (aphids) or bollworms. Supply of poison adequate at present."

GEORGIA: Field observations indicate a general light infestation of the boll weevil. Boll weevil punctured cotton squares were found in all of the 16 fields examined in Ben Hill, Irwin, Tift, Turner and Worth Counties. The infestations ranged between 1 and 10% punctured squares. The three fields with high infestations were in Ben Hill County, the infestations ranging from 4 to 10% punctured squares.

SOUTH CAROLINA: Boll weevils continued to emerge into an early planted trap plot of cotton near Florence. A total of 50 weevils were collected as compared to 89 the previous week. The emergence of weevils into the trap plot as compared with previous years through the third week of June; and the average percentage of squares punctured on farms in Florence County at approximately June 18 in recent years is as follows:

<u>Year</u>	<u>Weevils Collected in Trap Plot</u>	<u>Percentage of Cotton Squares Punctured in Florence County</u>
1948	385	13.1%
1947	994	24.0
1946	315	14.3
1945	536	8.9
1944	126	7.7
1943	429	7.8
1942	510	8.7
1941	785	22.8

The above records show that the number of boll weevils collected from the plot in 1948 is much less than in 1947, but about the same as in 1946; and there are enough weevils in the cotton fields to cause serious damage if they are not checked by hot dry weather or by the proper use of insecticides.



The average square infestations in 91 fields in 18 counties was 16% as compared to 17% punctured squares the previous week. In 25 fields the infestation did not exceed 10% punctured squares. In 52 fields the infestations ranged from 11 to 25%; and in 14 fields in Florence, Kershaw, Berkeley, Colleton, Dorchester, Lexington, Aiken, Bamberg and Orangeburg Counties from 26 to 50% of the squares were punctured. In Florence and Marion Counties 29 fields examined (that had been dusted) had an average infestation of 3.5 percent punctured squares. Five unpoisoned fields in Darlington County averaged 12.0 percent infestation and 11 unpoisoned fields in Florence County averaged 13.1 percent infestation. The fields that had been dusted received from 1 to 3 applications.

The county agricultural agents reported to the Extension Service, Clemson College, in regard to boll weevil conditions in 98 cotton fields in 21 counties. The average infestation was slightly over 13% punctured squares. In 20 fields no weevils or punctured squares were found. In 33 fields the infestations did not exceed 10% punctured squares; in 21 fields the punctured squares ranged from 11 to 25%. In only 5 fields did the infestation exceed 25%. Two fields, one in Barnwell County and the other in Orangeburg County, had 29% punctured squares, the highest infestations reported by the County Agents.

NORTH CAROLINA: James T. Conner, Jr., Extension Entomologist, reported on June 18:

"Twenty five hundred plants in 25 fields in Harnett, Wilson, Edgecombe, Nash, Halifax, Northampton, Hertford, Bertie, Johnston, and Wake Counties were examined for adult boll weevils, but only one weevil was found. This was in Edgecombe County."

The average square infestation in 36 fields in 11 counties was 7%. Weevil infestation was found in all fields examined. In 27 fields less than 10% of the squares were punctured and in only 9 fields in Cumberland, Hoke, Sampson and Johnston Counties were more than 10% of the squares punctured.

COTTON FLEAHOPPER, TARNISHED PLANT BUG, RAPID PLANT BUG  
AND OTHER MIRIDAE

TEXAS: In 579 fields examined in 61 counties cotton fleahoppers averaged 10 per 100 terminals as compared to 14 the previous week. No hoppers were found in 100 fields; in 295 fields there were less than 10 hoppers per 100 terminals; in 119 fields there were from 11 to 25; in 52 fields from 26 to 50; and in 13 fields more than 50 hoppers were found per 100 terminals.

In 43 fields examined in McLennan and Falls Counties in central Texas, cotton fleahoppers were found at an average rate of 11 hoppers per 100 terminals, ranging from 1 to 27. The infestation records as compared to previous years are as follows:

"1948	43 fields,	average 11 per terminal,	range	1 to 27
1947	24 "	"	14 "	1 to 51
1946	38 "	"	4 "	0 to 22
1945	19 "	"	4 "	1 to 17
1944	46 "	"	5 "	0 to 73
1943	5 "	"	5 "	3 to 50
1942	22 "	"	8 "	0 to 28
1941	22 "	"	15 "	3 to 35"

Most of the squares in many of the early planted fields in the Waco area are being stripped by the cotton fleahopper except where dusting is being done. Excellent results are being secured from 5% DDT for fleahopper control, from chlorinated camphene and from 3-5-40 mixtures used for combination weevil and fleahopper control.

LOUISIANA: Sweepings with insect nets were made at 54 points in 54 cotton fields near Tallulah, Madison Parish. The number of tarnished plant bugs taken ranged from 8 to 66 per 100 sweeps with an average of 41 per 100 sweeps for the 24 fields. The heaviest infestation was 72 tarnished plant bugs ~~per~~ 100 sweeps. Only a few nymphs were observed and these records are for adults only. Several fields have been dusted during the past two weeks with insecticide dusts containing 5% DDT, 10% chlorinated camphene, or 3% gamma benzene hexachloride. Second applications were made with DDT and chlorinated camphene in several fields, but there was little reduction in numbers of adults. In all fields dusted during the week with insecticides containing the 3-5-40 mixture or 3% gamma benzene hexachloride, the reduction approached 100%.

MISSISSIPPI: The tarnished plant bug was most numerous of the sucking bugs in the cotton fields of the Delta during the past week. They were noted in 128 of the 281 fields examined. Rapid plant bugs were noted in 51 of the fields. Another insect belonging to the genus Neurocolpus of the family Miridae was noted in two fields and the cotton fleahopper was observed in only 1 field located near the Mississippi River Levee in Issaquena County. Much of the damage usually attributed to the cotton fleahopper in the Delta Counties is caused by thrips, tarnished plant bug and the rapid plant bug.

#### BOLLWORM

TEXAS: More bollworm damage was reported in Hidalgo County than any other County, 19 fields being reported damaged. Three fields in San Patricio County were damaged. Probably more calcium arsenate has been used in Hidalgo County and more DDT in San Patricio County than any other insecticide.

#### COTTON LEAFWORM

TEXAS: The first cotton leafworm reported this year was found in Refugio County,  $4\frac{1}{2}$  miles northwest of Bayside on June 20 by L. F. Greer. Cotton leafworms were first reported last year in Nueces County on June 21, and in 1946 the first leafworms were collected in Cameron County on June 7.

#### COTTON APHID

TEXAS: Aphid damage was reported in 24 fields in Hidalgo County and in 9 fields in San Patricio County.

MISSISSIPPI: On June 21, Dr. Clay Lyle reported that the numerous infestations of the cotton aphid in most sections of the State two weeks ago have now been controlled by natural enemies in nearly all areas.

#### THRIPS

MISSISSIPPI: S. L. Calhoun, Stoneville, reported on June 18:

"South Delta cotton has largely overcome and out grown early thrips damage. Thrips continue to do considerable damage in many North Delta fields,



especially in localities where there has been but little rain. In almost every instance where thrips damage has been bad and there has come a good rain, cotton immediately began to grow and soon lost much of the appearance of thrips damage. Farmers as a whole appear more concerned about the stunting caused by thrips than heretofore. Thrips were reported in 36 fields this week compared to 112 fields last week."

#### MISCELLANEOUS INSECTS

TEXAS: Grasshoppers continue to do considerable damage along the edges of many cotton fields throughout a large portion of Central and Northern Texas. Severe spotted damage is reported to cotton with considerable damage to other crops. Control measures continue on a rather general scale.

LOUISIANA: Light infestations of hairy caterpillars were reported in several fields in Acadia, St. Landry and Lafayette Parishes. Although specimens were not received for identification it is probable that the hairy caterpillars reported are the larvae of a tiger moth, Callarctia phyllira (Drury) that has previously been reported this season as causing serious damage to cotton in East Carroll Parish, Louisiana and in Giles and Lincoln Counties, Tennessee.

GEORGIA: The cotton square borer, Strymon melinus (Hbn.) and the tobacco budworm, Heliothis virescens (F.) are causing serious damage in Southern Georgia. Fields in Baker and Mitchell counties had 10% and 20% of the squares destroyed. The "worms" submitted were determined by H. W. Capps, Division of Insect Identification.

NORTH CAROLINA: James T. Conner, Jr., Extension Entomologist, Raleigh reported that root aphids were responsible for poor stands of cotton in many fields in the southern counties.

#### INSECTS ON IRRIGATED COTTON OF THE SOUTHWEST

CALIFORNIA: Gordon L. Smith, Assistant Entomologist in the Experiment Station, wrote on June 13, 1948 from the U.S. Cotton Field Station, Shafter:

"We had our usual heavy infestation of Aphis medicaginis on young cotton. (A. medicaginis is the cowpea aphid. Mr. Smith stated that where certain insecticides were used to control the aphids there was no improvement in the growth of cotton and other insecticides applied were not effective.)

"The onion and western flower thrips did serious injury to young cotton in most sections of this valley. None of the sprays or dusts gave consistently good results. The weather has been very unfavorable for growth of cotton and also for good results from use of insecticides.

"The cutworms and beet armyworm, Laphygma exigua, were well controlled with 5% DDT dusts.

"The red spider mites are quite widespread and in some sections seriously injuring cotton. Sulfur was not effective enough during the cool stormy period. TEP has not been very effective to date. We are in the midst of the red spider control now."

TEXAS: Sweeping records made in the El Paso Valley during the week show that very few injurious hemipterous insects are present in the cotton fields at this time. A mirid tentatively identified as the black cotton fleahopper, Chlamydatus associatus, was found in fairly large numbers in some fields but not in sufficient numbers to warrant control.

PREPARED JUNE 25, 1948





